

Whereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to:

PATENT
Attorney Docket No.: 20174C-000620US

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

On April 4, 2005

TOWNSEND and TOWNSEND and CREW LLP

By: 
Randolph Ted Apple

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Charles F. Spence, et. al

Application No.: 09/928,590

Filed: August 13, 2001

For: MICRO-FABRICATED CELL
SORTER FOR CHEMICAL AND
BIOLOGICAL MATERIALS

Examiner: Jeffrey Thomas Barton

Art Unit: 1753

INFORMATION DISCLOSURE
STATEMENT UNDER 37 CFR §1.97 and
§1.98

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

The references cited on attached form PTO/SB/08A and PTO/SB/08B are being called to the attention of the Examiner. In accordance with 37 CFR §1.98(d), copies of the references (excepting references numbered 0044, 0050, 0054 and 0057) can be found in Application No. 09/325,667, filed May 21, 1999, now U.S. Patent No. 6,540,598 B1, issued April 1, 2003. In the case of the above-excepted references, copies of the non-U.S. patent documents are enclosed.

09920590

04/08/2005 FHETEK11 00000002 201430

180.00 DA

02 FC:1806

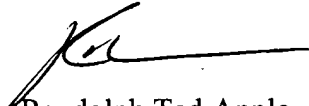
It is respectfully requested that the cited references be expressly considered during the prosecution of this application, and the references be made of record therein and appear among the "references cited" on any patent to issue therefrom.

As provided for by 37 CFR 1.97(g) and (h), no inference should be made that the information and references cited are prior art merely because they are in this statement and no representation is being made that a search has been conducted or that this statement encompasses all the possible relevant information.

This IDS is being filed before the mailing date of the final Office Action or Notice of Allowance.

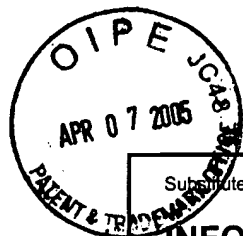
Please charge the IDS fee of \$180 to Deposit Account No. 20-1430. Please deduct any additional fees from, or credit any overpayment to, the above-noted Deposit Account.

Respectfully submitted,



Randolph Ted Apple
Reg. No. 36,429

TOWNSEND and TOWNSEND and CREW LLP
Two Embarcadero Center, Eighth Floor
San Francisco, California 94111-3834
Tel: 650-326-2400
Fax: 650-326-2422
RTA:scg



Substitute for form 1449A&B/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet 1 of 5

Complete if Known

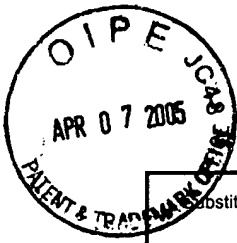
| | |
|------------------------|-----------------------|
| Application Number | 09/928,590 |
| Filing Date | August 13, 2001 |
| First Named Inventor | Spence, Charles F. |
| Art Unit | 1753 |
| Examiner Name | Jeffrey Thomas Barton |
| Attorney Docket Number | 20174C-000620US |

| U.S. PATENT DOCUMENTS+ | | | | | |
|------------------------|--------------------------|------------------------------------------|--------------------------------|----------------------------------------------------|---------------------------------------------------------------------------------|
| Examiner Initials* | Cite No. ¹ | Document Number | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
| | | Number Kind Code ² (if known) | | | |
| | 0001 | US-6,221,654 | 04-24-01 | Quake et al. | |
| | 0002 | US-5,932,100 | 08-03-99 | Yager et al. | |
| | 0003 | US-5,922,591 | 07-13-99 | Anderson et al. | |
| | 0004 | US-5,904,824 | 05-18-99 | Oh | |
| | 0005 | US-5,885,470 | 03-23-99 | Parce et al. | |
| | 0006 | US-5,880,071 | 03-09-99 | Parce et al. | |
| | 0007 | US-5,869,004 | 02-09-99 | Parce et al. | |
| | 0008 | US-5,856,174 | 01-05-99 | Lipshutz et al. | |
| | 0009 | US-5,852,495 | 12-22-98 | Parce | |
| | 0010 | US-5,837,200 | 11-17-98 | Diessel et al. | |
| | 0011 | US-5,800,690 | 09-01-98 | Chow et al. | |
| | 0012 | US-5,757,482 | 05-26-98 | Fuchs et al. | |
| | 0013 | US-5,750,015 | 05-12-98 | Soane et al. | |
| | 0014 | US-5,726,751 | 03-10-98 | Altendorf et al. | |
| | 0015 | US-5,726,404 | 03-10-98 | Brody et al. | |
| | 0016 | US-5,716,852 | 02-10-98 | Yager et al. | |
| | 0017 | US-5,702,618 | 12-30-97 | Saaski et al. | |
| | 0018 | US-5,681,484 | 10-28-97 | Zanzucchi et al. | |
| | 0019 | US-5,661,222 | 08-26-97 | Hare | |
| | 0020 | US-5,646,039 | 07-08-97 | Northrup et al. | |
| | 0021 | US-5,641,400 | 06-24-97 | Kaltenbach et al. | |
| | 0022 | US-5,639,423 | 06-17-97 | Northrup et al. | |
| | 0023 | US-5,637,469 | 06-10-97 | Wilding et al. | |
| | 0024 | US-5,632,876 | 05-27-97 | Zanzucchi et al. | |
| | 0025 | US-5,589,136 | 12-31-96 | Northrup et al. | |
| | 0026 | US-5,580,523 | 12-03-96 | Bard | |
| | 0027 | US-5,571,410 | 11-05-96 | Swedberg et al. | |
| | 0028 | US-5,558,998 | 09-24-96 | Hammond et al. | |
| | 0029 | US-5,512,131 | 04-30-96 | Kumar et al. | |

Examiner
SignatureDate
Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.



| | | | | | |
|---------------------------------------------------------------------------------------------------|---|----|---|--------------------------|-----------------------|
| INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary) | | | | Complete if Known | |
| | | | | Application Number | 09/928,590 |
| | | | | Filing Date | August 13, 2001 |
| | | | | First Named Inventor | Spence, Charles F. |
| | | | | Art Unit | 1753 |
| | | | | Examiner Name | Jeffrey Thomas Barton |
| Sheet | 2 | of | 5 | Attorney Docket Number | 20174C-000620US |

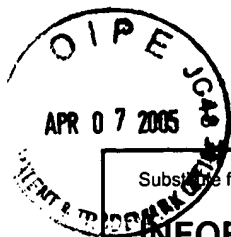
| U.S. PATENT DOCUMENTS+ | | | | | |
|------------------------|--------------------------|------------------------------------------|--------------------------------|----------------------------------------------------|---------------------------------------------------------------------------------|
| Examiner Initials* | Cite No. ¹ | Document Number | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
| | | Number Kind Code ² (if known) | | | |
| | 0030 | US-5,500,071 | 03-19-96 | Kaltenbach et al. | |
| | 0031 | US-5,498,392 | 03-12-96 | Wilding et al. | |
| | 0032 | US-5,486,335 | 01-23-96 | Wilding et al. | |
| | 0033 | US-5,454,472 | 10-03-95 | Benecke et al. | |
| | 0034 | US-5,452,878 | 09-26-95 | Gravensen et al. | |
| | 0035 | US-5,417,235 | 05-23-95 | Wise et al. | |
| | 0036 | US-5,376,252 | 12-27-94 | Ekstrom et al. | |
| | 0037 | US-5,304,487 | 04-19-94 | Wilding et al. | |
| | 0038 | US-5,271,724 | 12-21-93 | van Lintel | |
| | 0039 | US-5,164,598 | 11-17-92 | Hillman et al. | |
| | 0040 | US-5,140,161 | 08-18-92 | Hillman et al. | |
| | 0041 | US-5,126,022 | 06-30-92 | Soane et al. | |
| | 0042 | US-5,032,381 | 07-16-91 | Bronstein et al. | |
| | 0043 | US-4,963,498 | 10-16-90 | Hillman et al. | |
| | 0044 | US-4,936,465 | 06-26-90 | Zold | |
| | 0045 | US-4,908,112 | 03-13-90 | Pace | |
| | 0046 | US-4,786,165 | 11-22-88 | Yamamoto et al. | |
| | 0047 | US-4,675,300 | 06-23-87 | Zare et al. | |
| | 0048 | US-4,585,209 | 04-29-86 | Aine et al. | |
| | 0049 | US-4,581,624 | 04-08-86 | O'Connor | |
| | 0050 | US-3,984,307 | 10-05-76 | Kamentsky et al. | |
| | 0051 | US-3,560,754 | 02-02-71 | Kamentsky | |
| | 0052 | US-2,656,508 | 10-20-53 | Coulter | |

| FOREIGN PATENT DOCUMENTS | | | | | | | | |
|--------------------------|--------------------------|---------------------------|---------------------|-----------------------------------|--------------------------------|-------------------------------------------------------|------------------------------------------------------------------------------------|--------------------------|
| Examiner Initials* | Cite No. ¹ | Foreign Patent Document | | | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear | T ⁶ |
| | | Country Code ³ | Number ⁴ | Kind Code ⁵ (If known) | | | | |
| | 0053 | WO | 98/52691 | A | 01-26-99 | | | <input type="checkbox"/> |
| | 0054 | WO | 98/10267 | A | 03-12-98 | | | <input type="checkbox"/> |

| | |
|-----------------------|--------------------|
| Examiner Signature | Date Considered |
|-----------------------|--------------------|

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.



Substitute for form 1449A&B/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet **3** of **5****Complete if Known**

| | |
|------------------------|-----------------------|
| Application Number | 09/928,590 |
| Filing Date | August 13, 2001 |
| First Named Inventor | Spence, Charles F. |
| Art Unit | 1753 |
| Examiner Name | Jeffrey Thomas Barton |
| Attorney Docket Number | 20174C-000620US |

FOREIGN PATENT DOCUMENTS

| Examiner Initials* | Cite No. ¹ | Foreign Patent Document | | | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear | T ² |
|-----------------------|--------------------------|---------------------------|---------------------|-----------------------------------|--------------------------------|-------------------------------------------------------|------------------------------------------------------------------------------------|--------------------------|
| | | Country Code ³ | Number ⁴ | Kind Code ⁵ (if known) | | | | |
| | 0055 | WO | 98/08931 | A | 03-05-98 | | | <input type="checkbox"/> |
| | 0056 | WO | 98/00231 | A | 01-08-98 | | | <input type="checkbox"/> |
| | 0057 | WO | 97/45644 | A | 12-04-97 | | | <input type="checkbox"/> |
| | 0058 | WO | 97/02357 | A | 01-23-97 | | | <input type="checkbox"/> |
| | 0059 | WO | 96/04547 | A | 02-15-96 | | | <input type="checkbox"/> |
| | 0060 | WO | 95/33846 | A | 12-14-95 | | | <input type="checkbox"/> |
| | 0061 | WO | 94/05414 | A | 03-17-94 | | | <input type="checkbox"/> |
| | 0062 | WO | 91/15750 | A | 10-17-91 | | | <input type="checkbox"/> |
| | 0063 | WO | 91/13338 | A | 09-05-91 | | | <input type="checkbox"/> |
| | 0064 | EP | 0 745 682 | A | 12-04-96 | | | <input type="checkbox"/> |
| | 0065 | GB | 2264496 | | 01-09-93 | | | <input type="checkbox"/> |

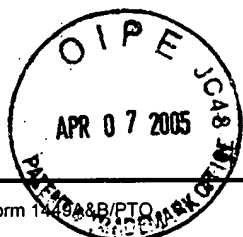
NON PATENT LITERATURE DOCUMENTS

| Examiner Initials * | Cite No. ¹ | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T ² |
|------------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| | 0066 | J. Affholter and F. Arnold, "Engineering a Revolution," <i>Chemistry in Britain</i> , Apr. 1999, p. 48. | |
| | 0067 | Angell et al., <i>Scientific American</i> 248:44-55 (1983). | |
| | 0068 | F. H. Arnold, <i>Acct. Chem. Research</i> 31, 125-131 (1998). | |
| | 0069 | A. Ashkin, J. M. Dziedzic, <i>Nature</i> 330, 769 (1987). | |
| | 0070 | A. Ashkin, J. M. Dziedzic, <i>Science</i> 235, 1517 (1987). | |
| | 0071 | Ballantyne, J.P., et al., <i>J. Vac. Sci. Technol.</i> 10:1094 (1973). | |
| | 0072 | Bein, Thomas, Efficient Assays for Combinatorial Methods for the Discovery of Catalysts, <i>Angew. Chem. Int. Ed.</i> 38:3, 323-26 (1999). | |
| | 0073 | T. N. Buican, M. J. Smyth, H. A. Verissman, <i>Applied Optics</i> 26, 5311 (1987). | |

Examiner
SignatureDate
Considered

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.



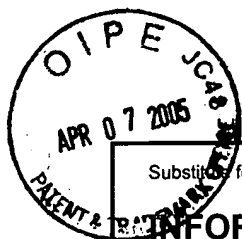
| | | | | | |
|---------------------------------------------------------------------------------------------------|---|--------------------------|-----------------------|------------------------|-----------------|
| INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary) | | Complete if Known | | | |
| | | Application Number | 09/928,590 | | |
| | | Filing Date | August 13, 2001 | | |
| | | First Named Inventor | Spence, Charles F. | | |
| | | Art Unit | 1753 | | |
| | | Examiner Name | Jeffrey Thomas Barton | | |
| Sheet | 4 | of | 5 | Attorney Docket Number | 20174C-000620US |

| NON PATENT LITERATURE DOCUMENTS | | | |
|---------------------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| Examiner Initials * | Cite No. ¹ | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T ² |
| | 0074 | Castro, A., et al., <i>Anal. Chem.</i> 85 :849-852 (1993). | |
| | 0075 | Chou, Hou-Pu et al., <i>Proc. Natl. Acad. Sci. USA</i> , 96 :11-13, Jan. 1999. | |
| | 0076 | P. J. Crosland-Taylor, <i>Nature (London)</i> 171 , 37 (1953). | |
| | 0077 | S. Fiedler, et al. "Dielectrophoretic Sorting of Particles and Cells in a Microsystem" <i>Analytical Chemistry</i> 70 , 1909-1915 (1998). | |
| | 0078 | M. J. Fulwyer, <i>Science</i> 156 , 910 (1974). | |
| | 0079 | Goodwin, P.M., et al., <i>Nucleic Acids Research</i> 21 (4):803-806 (1993). | |
| | 0080 | Hanes, J. & Pluckthun A. <i>Proc. Natl. Acad. Sci., USA</i> 94 , 4937 (1997). | |
| | 0081 | D.J. Harrison et al., <i>Science</i> , 261 : 895 (1993). | |
| | 0082 | Hoffmuller, U. & J. Schneider-Mergener, <i>Angew. Chemie. Int. Ed.</i> 37 , 3241-3243 (1998). | |
| | 0083 | Jermutus, L., L. A. Ryabova & A. Pluckthun, <i>Curr. Opin. Biotechnol</i> 9 , 534-548 (1998). | |
| | 0084 | L. A. Kamensky, M. R. Melamed, H. Derman, <i>Science</i> 150 , 630 (1965). | |
| | 0085 | M.U. Kopp et al., <i>Science</i> , 280 : 1046 (1998). | |
| | 0086 | Krutenat, R.C., Kirk-Othmer Concise Encyclopedia of Chemical Technology, John Wiley & Sons, New York (1985), pp. 749-752. | |
| | 0087 | Paul C.H. Li et al, "Transport Manipulation, and Reaction of Biological Cells On-Chip Using Electrokinetic Effects" <i>Analytical Chemistry</i> vol. 69 , No. 8, pp. 1564-1568, Apr. 15, 1999. | |
| | 0088 | Manz et al., <i>Trends in Analytical Chemistry</i> 10 : 144-149 (1991). | |
| | 0089 | A. Moldavan, <i>Science</i> 80 (2069), 188 (1934). | |
| | 0090 | J. P. Nolan, L. A. Sklar, <i>Nature Biotechnology</i> 16 , 633 (1998). | |
| | 0091 | Roberts, R. W. & Szostak, J. W. <i>Proc. Natl. Acad. Sci USA</i> 94 , 12297-12302 (1997). | |
| | 0092 | L. A. Sklar, <i>Proc. SPIE</i> 3256 , 144 (1998). | |
| | 0093 | Stemmer, W. P. C. <i>Nature</i> , 370 , 389 (1994). | |
| | 0094 | R. Sweet, "Flow Sorters for Biologic Cells." In: <i>Flow Cytometry and Sorting</i> , Melamed et al., eds. John Wiley & Sons:New York, pp. 177-189 (1979). | |
| | 0095 | Tawfik, D. and Griffiths, A <i>Nat. Biotechnol.</i> 16 , 656 (1998). | |

| | | | |
|-----------------------|--|--------------------|--|
| Examiner Signature | | Date Considered | |
|-----------------------|--|--------------------|--|

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.



| | | | | | |
|---------------------------------------------------------------------------------------------------|---|--------------------------|-----------------------|------------------------|-----------------|
| INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary) | | Complete if Known | | | |
| | | Application Number | 09/928,590 | | |
| | | Filing Date | August 13, 2001 | | |
| | | First Named Inventor | Spence, Charles F. | | |
| | | Art Unit | 1753 | | |
| | | Examiner Name | Jeffrey Thomas Barton | | |
| Sheet | 5 | of | 5 | Attorney Docket Number | 20174C-000620US |

| NON PATENT LITERATURE DOCUMENTS | | | |
|---------------------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| Examiner Initials * | Cite No. ¹ | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T ² |
| | 0096 | Thompson, L.F., "Introduction to Lithography", ACS Symposium Series 219:1-13, (1983). | |
| | 0097 | Todd et al., "Cell Electrophoresis." In: <i>Flow Cytometry and Sorting</i> . Melamed et al., eds. John Wiley & Sons: New York, pp. 217-229 (1979). | |
| | 0098 | M. A. Van Dilla, T. T. Trujillo, P. F. Mullaney, <i>Science</i> 163, 1213 (1969). | |
| | 0099 | Xia et al., <i>Ange. Chem. Int. Ed.</i> , 37:550-575 (1998). | |

| | | | |
|-----------------------|--|--------------------|--|
| Examiner Signature | | Date Considered | |
|-----------------------|--|--------------------|--|

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.